

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Dardo Bonaparte Lujan
Serial Number: 10/791,054
Filing Date: March 2, 2004
Title: Armored Assembly
Examiner: Troy Chambers
Art Unit: 3641

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Sir:

No fees are believed to be required. In the event that any fees are required for the prosecution of this application, please charge same to CARSTENS & CAHOON, L.L.P. Deposit Account No. 50-0392. No extension of time is believed to be necessary. If, however, an additional extension of time is needed, the extension is requested, and please charge the fee for this extension to CARSTENS & CAHOON, L.L.P. Deposit Account No. 50-0392.

In response to the correspondence mailed May 12, 2006, the Applicant offers the following amendments and remarks:

Amendments to the Claims are reflected in the listing of claims, which begins on page 2 of this paper.

Amendments to the Drawings are on page 8 of this paper and the attached replacement drawing sheet.

Remarks/Arguments begin on page 9 of this paper.

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

- Claim 1. (Previously Presented): A ballistic panel for providing ballistic protection, the panel comprising a plurality of deformable pieces that are arranged side-by-side and detachably retained into the panel in a manner that a piece impinged by a projectile becomes attached to the projectile and removed from the panel, whereby the size and shape of the projectile is increased by the attachment of the piece in order to be more easily stopped by any further panel provided for stopping the projectile.
- Claim 2. (Original): The panel of claim 1, wherein the pieces are arranged in at least one plane.
- Claim 3. (Withdrawn): The panel of claim 1, wherein the plurality of pieces is a plurality of compact ballistic units that are arranged into a side-by-side pattern and compacted into a dense panel, wherein each ballistic unit comprises a plurality of fibers arranged into a bundle that is folded and entangled into a compact mass of fibers.
- Claim 4. (Withdrawn): The panel of claim 3, wherein each compact ballistic unit comprises a bundle of fibers that is folded and entangled into a knot.
- Claim 5. (Original): The panel of claim 1, wherein the pieces form part of at least one high-tensile strength fabric cut into said pieces.
- Claim 6. (Original): The panel of claim 5, wherein the at least one high-tensile strength fabric

comprises a plurality of fabric sheets arranged into a pattern in that the pieces of a fabric sheet are offset relative the pieces of any adjacent fabric sheet.

Claim 7. (Previously Presented): The panel of claim 5, wherein the high-tensile strength fabric is made of polymeric threads, one or a combination selected from the group consisting of: aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, and thread fibers.

Claim 8. (Withdrawn): The panel of claim 1, wherein the plurality of pieces is a plurality of side-by-side arranged ring members, each ring member defining an inner diameter smaller than an outer maximum dimension of the projectile.

Claim 9. (Withdrawn): The panel of claim 8, wherein each ring member is selected from the group comprising lock washers, tooth washers, spring washers, rings, spring coil, sand clock-shaped spring and mixtures thereof.

Claim 10. (Withdrawn): The panel of claim 8, wherein the ring members are connected to each other and arranged into at least one plane.

Claim 11. (Withdrawn): The panel of claim 8, wherein the ring members are arranged side-by-side in more than one adjacent planes in a manner that the ring members of one plane are offset of the ring members of the adjacent plane.

Claim 12. (Previously Presented): The panel of claim 1, wherein the deformable pieces are arranged side-by-side into a material selected from the group consisting of: cardboard, rubber, polymers, plastics, EVA, and composites.

Claim 13. (Withdrawn): The panel of claim 8, wherein the projectile is provided with a piercing

tip having a minor dimension and the inner diameter of the ring member is larger than the minor dimension of the projectile member, for blocking the piercing tip.

Claim 14. (Withdrawn): The panel of claim 3, wherein the fibers of the ballistic units are made of polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers, and mixtures thereof.

Claim 15. (Original): A ballistic armored assembly for providing ballistic protection, the assembly comprising:

- i. at least one ballistic panel comprising a plurality of side-by-side deformable pieces that are detachably retained into the panel in a manner that a piece impinged by a projectile is removed from the panel and attached to the projectile, whereby the size and shape of the projectile is increased by the attachment of the piece; and
- ii. at least one projectile-stopping panel for stopping the projectile having said increased size and shape.

Claim 16. (Original): The assembly of claim 15, wherein the assembly has a front side and a rear side and the at least one ballistic panel is located at least at the front side for receiving the impinging projectile and the at least one projectile-stopping panel is located at least at the rear side for stopping the projectile having the increased size and shape after passing through the ballistic panel.

Claim 17. (Withdrawn): The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel and the plurality of pieces is a plurality of compact ballistic

units that are arranged into a side-by-side pattern and compacted into a dense panel, wherein each ballistic unit comprises a plurality of fibers arranged into a bundle that is folded and entangled into a compact mass of fibers.

Claim 18. (Withdrawn): The assembly of claim 17, wherein the fibers of the ballistic units are made of polymeric threads selected from the group comprising aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, thread fibers and mixtures thereof.

Claim 19. (Previously Presented): The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel and the pieces form part of at least one high-tensile strength fabric cut into said pieces, the fabric being made of polymeric threads being one or a combination selected from the group consisting of: aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, and thread fibers.

Claim 20. (Original): The assembly of claim 19, wherein the at least one high-tensile strength fabric comprises a plurality of fabric sheets arranged into a pattern that the pieces of a fabric sheet are offset relative the pieces of any adjacent fabric sheet.

Claim 21. (Withdrawn): The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel and the plurality of pieces is a plurality of side-by-side arranged ring members, each ring member defining an inner diameter smaller than an outer maximum dimension of the projectile.

Claim 22. (Withdrawn): The assembly of claim 21, wherein each ring member is selected from

the group comprising lock washers, tooth washers, spring washers, rings, spring coil, sand clock-shaped spring and mixtures thereof.

Claim 23. (Withdrawn): The assembly of claim 22, wherein the ring members are connected to each other and arranged into at least one plane.

Claim 24. (Withdrawn): The assembly of claim 21, wherein the ring members are arranged side-by-side in more than one adjacent planes in a manner that the ring members of one plane are offset of the ring members of the adjacent plane.

Claim 25. (Previously Presented): The assembly of claim 15, wherein the deformable pieces are arranged side-by-side into a material selected from the group consisting of: cardboard, rubber, polymers, plastics, EVA, and composites.

Claim 26. (Withdrawn): The assembly of claim 21, wherein the projectile is provided with a piercing tip having a minor dimension and the inner diameter of the ring member is larger than the minor dimension of the projectile member, for blocking the piercing tip.

Claim 27. (Original): The assembly of claim 16, wherein the panels form a pack with the panels attached to each other.

Claim 28. (Original): The assembly of claim 27, wherein at least one impact cushioning panel is provided at the rear side.

Claim 29. (Original): The assembly of claim 16, wherein the projectile-stopping panel is a projectile-trapping panel comprised of a compacted mass of loosely-entangled fibers, whereby the projectile having said increased size and shape is more easily stopped by

the projectile-trapping panel.

Claim 30. (Previously Presented): The assembly of claim 29, wherein the fibers of the at least one projectile-trapping panel are formed from polymeric threads, one or a combination selected from the group consisting of: aramid threads, polyester threads, synthetic threads, aramid fibers, ultra high resistance polyethylene fibers, and thread fibers.

Claim 31. (Withdrawn): The assembly of claim 29, wherein the fibers of the projectile-trapping panel are wrapped around a core support to form said at least one projectile-trapping panel.

Claim 32. (Withdrawn): The assembly of claim 29, wherein the fibers of the projectile-trapping panel are confined into an outer cover.

Claim 33. (Withdrawn): The assembly of claim 29, wherein the at least one projectile-trapping panel is a panel compacted into a press.

Claim 34. (Withdrawn): The assembly of claim 29, wherein the at least one projectile-trapping panel is a panel compacted by extracting any air in the mass of entangled fibers by means of a vacuum chamber.

Claim 35. (New): The ballistic panel of claim 1, wherein the pieces are pieces of Kevlar®.

Claim 36. (New): The ballistic panel of claim 5, wherein the high-tensile strength fabric is Kevlar®.

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 16. This sheet, which includes Fig. 15-16, replaces the original sheet including Fig. 15-16. In Fig. 16, elements 5 and 6 from Fig. 1 have been added to Fig. 16.

Attachments: Replacement Sheet

Annotated Sheet Showing Changes

REMARKS

Claims 1, 2, 5, 6, 7, 12, 15, 16, 19, 20, 25, 27, 28, 29 and 30 are now pending in the present application. Claims 3, 4, 8, 9, 10, 11, 13, 14, 17, 18, 21, 22, 23, 24, 26, 31, 32, 33, and 34 have been withdrawn pursuant to a restriction requirement. Additionally, Claims 35 and 36 have been added.

Drawings

In the Office Action, the Examiner has again objected to the drawings under 37 CFR §1.83(a) in that the drawings are deemed not to show every feature of the invention. Specifically, the Examiner contends that the “at least one projectile stopping panel” (Claims 15, 16), “the impact cushioning panel” (Claim 28), and “the projectile stopping panel comprising loosely-entangled fibers” (Claim 29) are not shown in the drawings. In the previous Office Action, Applicant pointed out to Examiner that these features were already shown in FIGS. 1 and 9. During an informal telephone conversation with Examiner on August 8, 2006, Examiner noted that these features are not shown in FIGS. 15 and 16, which represent specie E elected with traverse by Applicant pursuant to a restriction requirement. Examiner also stated that he would not look outside FIGS. 15 and 16 for the above referenced features.

Pursuant to Examiner’s suggestion that he will not look at any other figures other than FIGS. 15 and 16 for the features of the invention, replacement drawing sheets are attached to this response clearly depicting the “at least one projectile stopping panel” (Claims 15, 16), “the impact cushioning panel” (Claim 28), and “the projectile stopping panel comprising loosely-entangled fibers (Claim 29) in FIG. 16. Specifically, the “at least one projectile stopping panel” and “the projectile stopping panel comprising loosely entangled fibers” are identified by reference numeral 5. The “impact cushioning panel” is identified by reference numeral 6.

No new matter has been entered because these amendments to the drawings are clearly supported by the original disclosure. In paragraph 0069 of the published application, the description of FIG. 16 states that the bullet is “trapped into the mass or against the surface of any further ballistic panel, such as the panels of FIGS. 1 and 9.” Therefore, the ballistic panels of FIGS. 1 and 9 are incorporated by reference into the description of FIG. 16. Consequently, FIG. 16 has been amended to include the ballistic panels identified by the reference numerals 5 and 6

in FIGS. 1 and 9.

Paragraph 0042 of the published application refers in the description of FIG. 1 to “at least one projectile-trapping panel 5.” Likewise, the specification at paragraph 0070 refers to “at least one projectile-stopping panel, or trapping panel”, which indicates that the terms “projectile trapping panel” and “projectile stopping panel” are used interchangeably. Such panel is now clearly depicted in FIG. 16 and identified by the reference numeral 5.

The “projectile stopping panel comprising loosely entangled fibers” in claim 29 is also shown in FIG. 16. Applicant respectfully refers Examiner to the preceding paragraph indicating that the terms “projectile stopping panel” and “projectile trapping panel” are used interchangeably. To the extent Examiner believes that the “loosely entangled fibers” portion of claim 29 is not shown, Applicant refers Examiner to paragraph 0055 of the specification, wherein it is disclosed that “the projectile-trapping panels 5 ... may comprise a mass of loosely-entangled microfibers 15, FIGS. 1 and 2.” The same paragraph goes on to state that “the term ‘microfiber’ must be understood as encircling all kind of fibers, filaments, threads and the like.” The term “loosely entangled” is defined in paragraph 0057 of the specification. The term “loosely entangled” is also described and claimed in U.S. Patent No. 6,684,468, col. 4, l. 45 through col. 5, l. 12 and claim 1. Therefore, “the projectile stopping panel comprising loosely entangled fibers” in claim 29 is now depicted in FIG. 16 and identified by reference numeral 5.

Applicant also respectfully submits that the “impact cushioning panel” referred to in claim 28 is now shown in FIG. 16. In paragraph 0043 the specification discloses “at least one impact cushioning panel 6, see FIG. 1”. Again, Applicant respectfully refers Examiner to the description of FIG. 16, paragraph 0069, which also refers to FIG. 1 and incorporates the ballistic panels of FIG. 1 by reference into the description of FIG. 16. Because the “impact cushioning panel”, “the projectile stopping panel”, and “the projectile stopping panel comprising loosely entangled fibers” originally shown in FIG. 1 are now shown in FIG. 16 and identified by the reference numerals 5 and 6, Applicant requests that Examiner withdraws his objection under 37 C.F.R. 1.83(a) that these features are not shown in the drawings.

Applicant has carefully studied the outstanding Office Action. The present Response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to

place the application in condition for allowance. Favorable reconsideration and allowance of this application are respectfully requested. No new matter has been added by any of the amendments. Applicant respectfully requests reconsideration and withdrawal of the Examiner's rejections in view of the foregoing amendments and following remarks.

CLAIM REJECTIONS – 35 U.S.C. § 102

Claims 1, 2, 5, 6, 7, 12, 15, 16, 19, 20, 27, 28, 29 and 30

The Examiner has again rejected claims 1, 2, 5, 12, 15, 16, 27 and 28 under 35 U.S.C. § 102(e) as being anticipated by Anderson et al. (U.S. Patent No. 6,718,861) and claims 1, 5, 6, 7, 15, 16, 19, 20, 27, 28, 29 and 30 under 35 U.S.C. § 102(b) as being anticipated by Meyer (U.S. Patent No. 2,723,214). Examiner has also made this action final. Applicant, pursuant to MPEP § 706.07(d), hereby requests that Examiner to withdraw the finality of these rejections.

Respectfully, during an informal telephone conversation on August 8, 2006, Examiner admitted that, in preparing this final office action, he did not consider the claim amendments Applicant offered in response to Examiner's previous office action. Specifically, in response to Examiner's previous office action, Applicant amended claims 7, 12, 19, 25 and 30 to replace "comprising" with "consisting of" to render the Markush groups proper. Paragraphs 7 and 10 of the latest action state that "Applicant's use of the phrase 'comprising' in the attempted Markush group does not operate to exclude other materials." With regards to claims 7, 19 and 30, Examiner has again argued that "glass fibers" disclosed in Meyer anticipate these claims, when, in fact, the now proper Markush groups in these claims specifically exclude "glass fibers" because "glass fibers" is not listed in the group. **It is clear, therefore, based on the contents of the latest action and the telephone conversation with Examiner that the claims, as amended in response to the previous office action, were not examined.** In light this fact, Applicant respectfully requests Examiner to withdraw the finality of his latest office action and examine the claims presented, as previously amended. Applicant preserves these arguments for purposes of petition under 37 C.F.R. § 1.181.

Claim 12, as previously amended to render the Markush group proper, is clearly allowable over Anderson. Anderson does not disclose deformable pieces arranged side-by-side into a material selected from the group consisting of cardboard, rubber, polymers, plastics, EVA, and composites.

Examiner has merely repeated arguments presented in his previous action that use of the word “comprising” does not limit the scope of the invention. Because Applicant has previously amended claim 12 to limit the scope of the invention to the materials originally listed in claim 12, Anderson does not anticipate claim 12.

By similar reasoning, claim 25 as previously amended to render the Markush group proper, is clearly allowable over Anderson. Anderson does not disclose deformable pieces arranged side-by-side into a material selected from the group consisting of cardboard, rubber, polymers, plastics, EVA, and composites. Again, it is clear Examiner has not examined claim 25 as previously amended because Examiner merely repeated arguments presented in the previous office action without regard to the amendment rendering the Markush group of claim 25 proper. Because Applicant has previously amended claim 25 to limit the scope of the invention to the materials originally listed in claim 25, Anderson does not anticipate claim 25 and Applicant respectfully requests this rejection be withdrawn. Applicant preserves the arguments with respect to both claims 12 and 25 for purposes of appeal.

With regards to claims 7, 19 and 30, Meyer does not disclose glass fibers as examiner has contended. Meyer, in fact, discloses resin impregnated glass fibers. As discussed in Applicant's response to Examiner's previous office action, impregnating the glass fibers of Meyer with resin renders the glass fibers rigid, bringing the glass fibers out of the scope of Applicant's invention. Also, the resin is an element present in and essential to the Meyer invention that is not present in claims 7, 19 or 30. Therefore Meyer clearly does not anticipate these claims.

Moreover and most importantly, the Markush groups in claims 7, 19 or 30 do not contain “glass fibers”. Therefore, even if Meyer can be read to only disclose “glass fibers”, it is clear from reading these claims, as previously amended to properly limit the Markush groups, that they are not anticipated by any reference (including Meyer) that discloses “glass fibers”. Applicant respectfully requests that these rejections be withdrawn and preserves these arguments for purposes of appeal.

In response to Examiner's contention in paragraph 23 of the latest office action that “it is not known what applicant means by ‘loosely-entangled’”, Examiner is respectfully referred to paragraph 0057 of the specification, wherein the term “entangled” is defined to include actions of “wrinkling, rumpling, disheveling, etc. which action has the purpose of arranging the threads and fibers aleatory and, even **loosely**, accommodated into a formless, shapeless, amorphous body or

mass...” (emphasis added). The term “loosely-entangled” is also similarly described and claimed in U.S. Patent No. 6,684,468, col. 4, l. 45 through col. 5, l. 12 and claim 1. In light of the disclosure in the present application and the cited U.S. patent reference, Examiner should know what Applicant means by “loosely-entangled”. Applicant preserves this argument for purposes of appeal.

With regards to the rejection of Claim 5, neither Anderson nor Meyer disclose a high-tensile strength fabric *cut into pieces* as claimed in Claim 5 of the present invention. Examiner indicated in paragraph 27 of his latest office action that Applicant should amend claim 5 to make it clear that the fabric must be cut into pieces. During an informal telephone conversation with Examiner on August 8, 2006, Examiner indicated that claim 5, as written, clearly indicates that the fabric is cut into pieces. As such, claim 5 is clearly in a condition for allowance because neither Anderson nor Meyer disclose a fabric cut into pieces. It is also important to note that, in the previous office action, the word Examiner read as “out” in Claim 5 was, in fact, the word “cut” in both the application submitted to the USPTO and in the published application available from the USPTO website. Applicant speculates that Examiner was given a poor quality copy of the original application such that the word “cut” looked like the word “out”. In any case, Applicant respectfully requests that Examiner withdraw his rejection of claim 5 because, as written, it clearly indicates that the fabric is cut into pieces, which is not anticipated by Anderson or Meyer. Applicant also preserves this argument for purposes of appeal.

NEW CLAIMS

Applicant offers new claims 35 and 36 for consideration by Examiner. Under MPEP § 706.07(e), “when a final rejection is withdrawn, all amendments filed after the final rejection are ordinarily entered.” Because Applicant has shown that the finality of the latest office action should be withdrawn, these new claims should be entered, and Applicant preserves this argument for purposes of review.

Both claims are supported by the specification originally filed in the description of FIG. 15, paragraph 0068. Therein is stated that the high-tensile strength fabric may be made of, among other things, Kevlar®. Furthermore, the claims are clearly patentable over the prior art because the prior art does not teach a ballistic panel, wherein the pieces making up the ballistic panel are made of Kevlar. Applicant requests that new claims 35 and 36 be allowed.

CONCLUSION

Applicant respectfully request that the finality of Examiner's latest office action be withdrawn. Applicant has adopted the Examiner's suggestions and persuasively argued against Examiner's rejections. Consequently, Applicant believes the claims are in condition for allowance. It is respectfully urged that the subject application is patentable over references cited by Examiner and is now in condition for allowance. Applicant requests consideration of the application and allowance of the claims. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, the Examiner is cordially invited to contact David Carstens at 972.367.2001.

The Commissioner is hereby authorized to charge any additional payments that may be due for additional claims to Deposit Account 50-0392.

Respectfully submitted,

By: 

David Carstens

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Date: Aug 14, 2006

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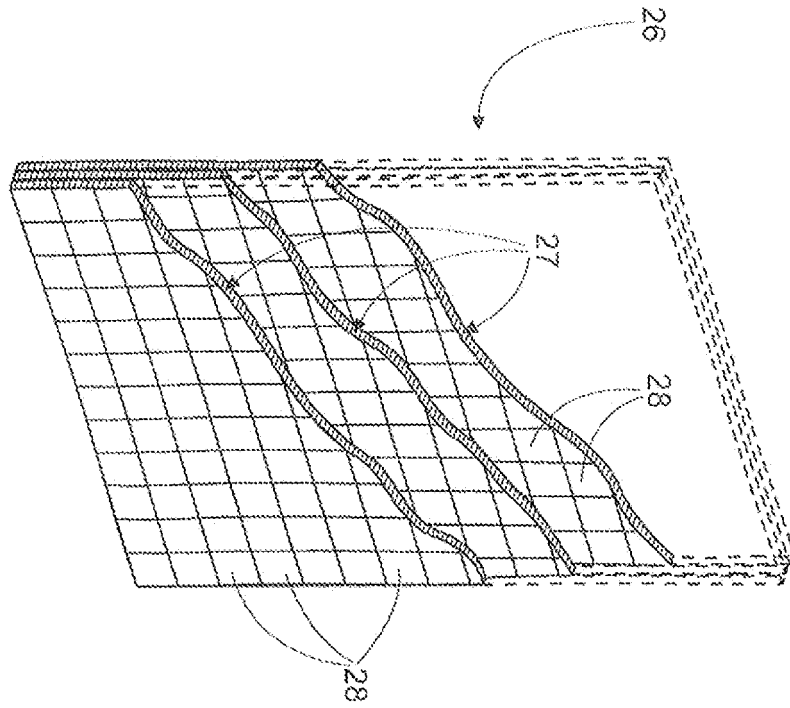


Fig. 15

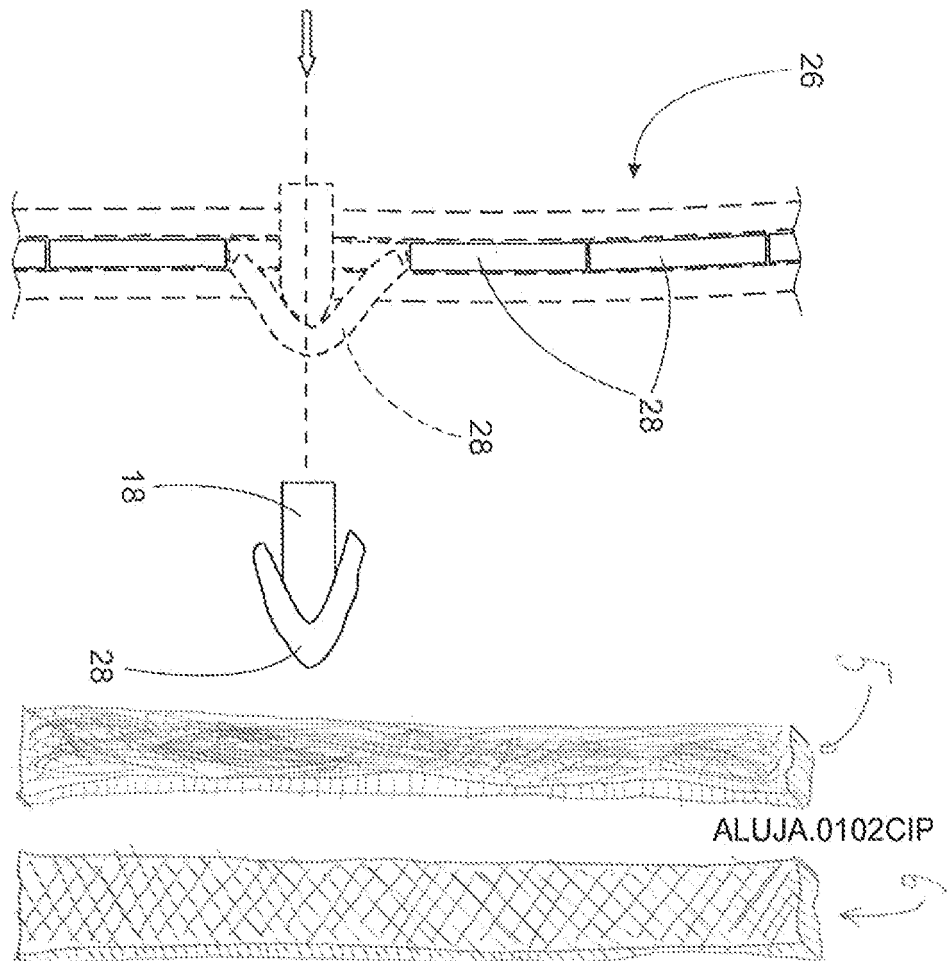


Fig. 16

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REPLACEMENT SHEET
5/6

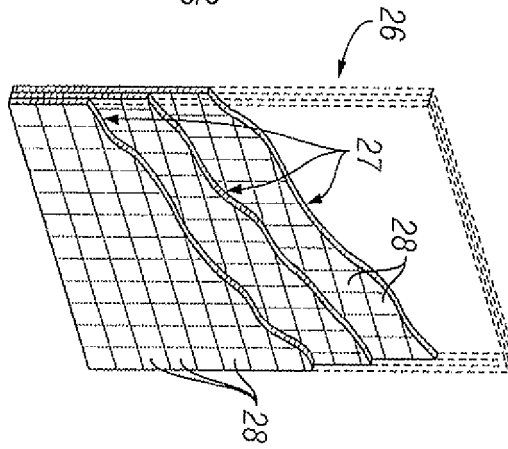


FIG. 15

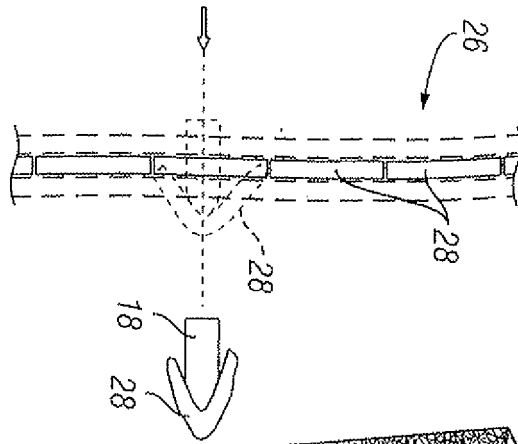


FIG. 16

